

PATENT

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Inventor: David M. Kaufman)	Confirmation No.: 9367
)	Customer No.: 000043471
U.S. Serial No.: 10/055,526)	
Filed: November 13, 2001)	Art Unit: 2623
)	Examiner: A. Q. Shang
Title: IMPROVED BANDWIDTH DIRECTIONAL COUPLER		

**PRE-APPEAL BRIEF
REQUEST FOR REVIEW**

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir,

Please enter these arguments in response to the Final Office Action mailed on July 25, 2006 and conduct a pre-appeal brief conference.

Claims 1, 6-8, 13-15 and 19 stand rejected under 35 U.S.C. § 102 stand rejected under 35 U.S.C. § 103 as being unpatentable over Pavlic et al. (U.S. Pat. 5,130,664) (hereafter “Pavlic”) and Crane (U.S. Pat. 4,731,614).

Applicant respectfully traverses the rejection. While Applicant’s appreciate the Examiner’s response to Applicant’s explanations, the Examiner’s rationale is respectfully misplaced and the Examiner’s use of *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981) is misplaced. The holding in *In re Keller* does not suggest to ignore the actual disclosures of references, indeed the discussion in *In re Keller* involves considerable discussion of the disclosures of the references, and even includes discussion of the references individually, particularly when considering whether the secondary reference (Walsh) was “analogous art”. See, *In re Keller*, at 424-25. Finally, as explained by the U.S. Court of Appeals for the Federal Circuit (the “Federal Circuit”), *In re Keller* merely stands for the proposition that, when a

rejection relies on an implicit motivation, the teachings of the art, including the combined teachings, and the nature of the problem to be solved may be the source of the motivation to combine. See, *In re Kotzab*, 217 F.3d 1365, 1370; 55 USPQ2d 1313, (Fed. Cir. 2000):

The **motivation, suggestion or teaching** may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved. In addition, the **teaching, motivation or suggestion** may be **implicit from the prior art as a whole, rather than expressly stated in the references.** The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 425, 208 U.S.P.Q. (BNA) 871, 881 (CCPA 1981) (and cases cited therein). **Whether the Board relies on an express or an implicit showing, it must provide particular findings related thereto.** Broad conclusory statements standing alone are not "evidence."

Citations omitted, bold added for emphasis. As explained in *In re Kotzab*, whether relying on an express or implicit showing, the rejection must still be supported by particular findings in a reference. *Id.* Notably, just before relying on *In re Keller*, the Federal Circuit *In re Kotzab* explained the test for obvious as follows:

Most if not all inventions arise from a combination of old elements. Thus, every element of a claimed invention may often be found in the prior art. **However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant.**

In re Kotzab, at 1369-70, citations omitted, bold added for emphasis. Accordingly, the suggestion that an Applicant is not permitted to analyze the individual teachings of a reference to rebut a conclusion of obviousness is simply not supported in the law.

A. The Combination Does Not Disclose All Of The Claimed Limitations

The combination of Pavlic and Crane, even if considered legally permissible, *arguendo*, does not produce all of the limitations of the claims. Particularly, as neither Pavlic nor Crane disclose to use two different techniques in a system with directional couplers, the resulting

combination clearly cannot be considered to achieve such. More particularly, neither Pavlic nor Crane, taken alone or in combination disclose or suggest a directional coupler which includes using an input duplex filter for splitting an input signal into a high band signal and a low band signal, a highband directional coupler which is stripline or microstrip technology and a lowband directional coupler which is ferrite transformer technology and, as substantially required by claims 1, 8 and 15. Pavlic discloses a repeater station for a CATV network. Pavlic does not disclose to use a highband directional coupler which is stripline or microstrip technology and a lowband directional coupler with is ferrite transformer technology. Crane discloses a phased array scanning system which appears to operate in excess of 60 GHz. Crane, col. 1: 36-54. Crane discloses to use microstrip and stripline technologies. Crane, col. 5: 10-16 and col. 6: 20-50. Crane also does not disclose to use both stripline or microstrip technology for a highband directional coupler and ferrite transformer technology for a lowband directional coupler.

B. The Combination Is Impermissible Because Crane Is Not Analogous Art

Moreover, Crane is not analogous art to Applicant's invention. Prior art for obviousness under 35 USC § 103 must be analogous art. *In re Clay*, 966 F.2d 656, 23 USPQ 2d 1058 (CAFC 1992). The court in *In re Clay* defined analogous art as: 1) art which is in the *same field of endeavor*, or 2) art which is *reasonably pertinent to the particular problem which the inventor is involved*. *Id.* Where reasonable pertinence to the inventors particular problem is shown by whether the prior art has the *same purpose and is faced with the same problem* solved by the inventor. *Id.*

Crane is clearly not in the same field of endeavor as Applicant, contrary to the Examiner's assertion on page 2 of the Advisory Action, in which the Examiner alleges "[A]ll references are in the same field of endeavor, i.e. a directional coupler or receiver/transmitter for

CATV system.” Crane is clearly concerned with a phased array scanning system which appears to be essentially for a radar system. Crane, col. 1: 5-8 (“phased arrays can be designed to form multiple beams in space ... and provide adaptive capabilities for electronic counter measure purposes”); col. 5: 16-20 (“note that the single path encounters the same number of noise contributions as a conventional radar”). Crane clearly is not a CATV system, and Crane is not a system which is intended to carry communication signals associated with a CATV system. Crane clearly is not in the same field of endeavor as Applicant’s invention.

Crane is also not reasonably pertinent to the problem solved by Applicants, i.e. Crane does not have the same purpose and is not faced with the same problems as Applicant. Crane’s frequencies do not carry communication data and are about a factor of 10 to 95 times greater than the present invention, e.g. “up through 95GHz” (Crane, col. 1: 40-45; col. 2: 35-38) compared to Applicant’s 1 GHz. Crane identifies the ferrite technology to only have a problem above 26GHz for cost (26 times higher than in Applicant’s invention), and 60GHz for performance (60 times higher than Applicant’s invention). Crane is not concerned with transmitting data over a medium, such as a coaxial cable, in a CATV system. Clearly, one of skill in the art of Applicant’s invention would not look for solutions to their problems in a phase array environment of Crane.

C. The Rejection Is Improper For Being Based On Impermissible Hindsight

The rejection appears to be based on impermissible hindsight. In short, the rejection is clearly based on following the trail blazed by Applicant and the stated motivation for the combination in the rejection is at best illusory and nothing more than speculation. The rejection appears to assert that one of skill in the art would use the ferrite technology of Pavlic for a “low band directional coupler” but replace Pavlic’s ferrite couplers with the strip line technology of

Crane for a “high band” directional coupler. The rejection ignores the fact that Crane discloses that the ferrite technology works well up to 60 GHz, which is 60 times higher than the 1GHz frequency being used by Pavlic. Crane, col. 1: 42-46. Further, the Examiner does not explain why one of skill in the art would ignore the teaching of Crane in one instance and still use a ferrite coupler while adopting the teachings of Crane and replace the ferrite couplers of Pavlic in another instance, particularly when Crane explains that both the low band and high band frequencies of concern in Pavlic are well within the capabilities of the ferrite technology.

Moreover, the stated rationale for making the combination, “to reduce circuit complexity and weight and further coupled directional couplers together to achieve a broad bandwidths of frequencies” does not appear to be based on any reasonable scientific logic, disclosure or even desire by either reference. Use of two types of couplers likely retains the circuitry associated with both types, doubling the required circuitry. Neither reference appears to be concerned with the weight of the directional couplers, and there is no evidence that such would even be obtained under the combination. Finally, the evidence suggest that Pavlic could easily achieve desired “broad bandwidths” under its current architecture, since Crane explains that “existing ferrite technology provides acceptable performance” up to 60GHz, which is well above the upper limit of 1 GHz communication frequencies used by Pavlic.

Accordingly, Applicant respectfully requests the above rejections to be withdrawn.

Respectfully submitted,

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